

## **Historic, archived document**

Do not assume content reflects current scientific knowledge, policies, or practices.







# RTD TODAY

Resources and Technology Division  
Economic Research Service  
U.S. Department of Agriculture, Washington, DC

A newsletter for employees  
and colleagues of RTD

JUNE-JULY 1991

## FROM THE DIRECTOR'S OFFICE

The Division's management staff held a retreat June 23-25. The agenda included a review of RTD initiatives on food safety, global change, and water quality; a discussion of management issues that cut across Branches; and a workshop with Ben Alexander on Managing Cultural Diversity.

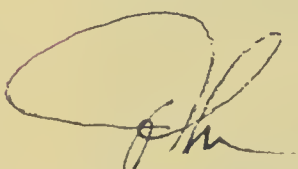
Among the issues that surfaced in discussions at the Retreat were: (1) Clearly defining objectives for the RTD research program; (2) Management demands associated with the initiatives; (3) Coordination, direction, and incentives in database development; (4) Timing data collection and research; (5) Need for products in both the short and long run; (6) Potential resource competition between initiatives and the ongoing RTD program; and (7) Activities which detract from focusing on the economic research issues.

To respond to the issues identified, changes are being made in four areas: (1) With respect to our initiatives, we will move to a Coordinator and Core Team concept. The Coordinator will be closely linked to the Director's Office and be the principal contact within USDA and with outside agencies. The Core Team will be responsible for synthesis pieces and for scoping out the bigger research picture; (2) With respect to our research programs in Water Quality, Food Safety, and Global Change, we will clearly articulate research objectives, focus products and deadlines, and ensure that Cooperative Agreements are an integral part of our research program; (3) With respect to our data activities, we will assure that data development is dictated by our research programs; and (4) With respect to organizational and management issues, we will review the role of line management in conducting research and initiative responsibilities.

We are having a series of Expanded Management Team meetings to follow up on issues identified at the Retreat. The Section Leaders made important contributions to our Retreat discussions and we must ensure that their input is included as we respond to the issues.

Our session with Ben Alexander clearly identified the need for better communication throughout RTD and the need for greater sensitivity on the part of all RTD staff. Some follow up awareness training as well as further assessment of staff training needs will follow as soon as we receive a final report from Ben Alexander.

I feel very positive about the Retreat and believe that we have a better understanding of what RTD is all about. Our commitment to improve communication has already led to a number of meetings to discuss the issues. I encourage you to take every opportunity to express your view to me so that together we can make RTD an even more exciting place to work.



JOHN A. MIRANOWSKI

FOOTNOTE: RTD Branch and other units are abbreviated in this letter, as follows:

Office of the Director (OD), Agricultural Inputs and Production Systems Branch (AI&PS), Land and Capital Assets Branch (L&CA), Resource Policy Branch (RP), Water Branch (W), and Resource Indicators Branch (RI).



# PROGRAM HIGHLIGHTS

## RTD PRODUCTIVITY RESEARCH UPDATE

During the postwar period, output from the agricultural sector expanded at an average annual rate in excess of 2 percent. The average rate of increase in aggregate input use was only 0.2 percent. Fully 90 percent of the growth in output was achieved through increased productivity. RTD publishes indexes of productivity growth annually at the regional and national levels.

Accurate measurement of productivity growth makes it possible to quantify the contribution of technical innovation to growth in agricultural output. More important, such research can identify the sources of productivity growth and the underlying causes of past trends in productivity growth. Productivity research also assists in the design of government policy to enhance agricultural productivity and foster economic growth.

Recent research has focused on measurement of capital and labor service flows. Investment in durable assets is divided into two categories: (1) gross fixed capital formation, and; (2) changes in inventories. Items treated as fixed capital, for which capital expenditures are reported, include nonresidential structures, vehicles, and other machinery and equipment. Goods and services which are incorporated into fixed capital for purposes of increasing their productive capacity are recorded with the capital goods into which they are incorporated.

Estimates of capital stocks are constructed as weighted sums of all past investment where weights are the assets' efficiency as of a given age. The efficiency of a capital asset incorporates several types of physical deterioration (e.g. straight line, geometric decay, etc.). Since the definition of efficiency is applied to broad types of assets, a distribution of service lives is assumed.

Estimates of own-account capital stocks are difficult to estimate. Own-account capital formation is not recorded in gross capital expenditures. However, the number of animals added to the fixed capital stock can be derived. These animals are valued at their opportunity costs. Data has been compiled on the effects of age on productivity, culling rates which permits construction of cumulative survival functions, and genetic trends in certain animal traits such as milk yield and weaning weight. The genetic trend measures embodied technical change. This information allows us to construct measures of relative efficiency which, in turn, are used to aggregate past investment.

The measure of labor input reflects the changing demographics of the farm work force. Data on hours worked and compensation per hour are cross-classified by occupational and demographic characteristics. Self-employed and unpaid family workers are imputed the mean wage of hired workers with the same characteristics. The resulting index of labor input in agriculture declines more slowly than a measure of labor input based on an unweighted sum of hours because of the greater educational achievement of workers entering the agricultural work force in recent years.

Research in productivity measurement is proceeding in three areas. First, the measure of productivity growth will be adjusted to reflect the intensity of input use during periods of economic contraction and expansion. Fixed capital may earn less than the market rate of interest during periods of contraction in the economy. The contribution of capital is overstated when market rates are used to value capital service flows, thus resulting in a downward bias of measured productivity. RTD researchers will estimate shadow values for fixed inputs using a variable cost function rather than use market prices to value these inputs.

A second area of research is efficiency in input use. Technical inefficiencies may arise due to imperfect dissemination of technical information or the failure to adapt "best practice" techniques, perhaps because of limited access to credit. Using observation at the State and/or regional level, measures of technical efficiency will be computed. These measures of technical efficiency will be used to construct new indexes of productivity growth.



Our third research project will develop productivity indexes that incorporate environmental impacts of agricultural production. Implicit in productivity measurement is the assumption that all inputs and outputs are included. In fact, however, only marketed outputs are typically included. Nonmarketed outputs are excluded because they are difficult to quantify and, by virtue of being nonmarketed, they have no market prices with which to value them. By excluding environmental impacts, productivity growth is overstated by conventional measures.

In the first stage of this research shadow prices of nonmarketed environmental impacts will be calculated using linear programming techniques in a model of production that assumes only weak disposability of "undesirable outputs" from agricultural production. In the second stage, these shadow prices will be used to recalculate productivity indexes in an expanded Tornqvist framework that includes both marketed and nonmarketed outputs of agriculture.

## EVENTS AND ACTIVITIES

### SUMMER INTERNS

Eleven undergraduate and graduate students from Cornell University, Spelman College, Carnegie-Mellon, and the Universities of Arizona, California, Wisconsin, Nebraska, and Texas make up RTD's summer intern program. The program provides interns with "hands-on" economic research experience and a chance to work in Washington, D.C. In addition to working with RTD researchers on projects relating to food safety, global climate change, and water quality, interns receive a salary, housing, and local transportation. These opportunities allow interns to acquire money for school and interact with the more than 200 other USDA interns living and working in the Washington area this summer.

Intern activities have included: a visit to Capitol Hill, a welcoming program featuring USDA Secretary Edward Madigan, a seminar on work force diversity, and a RTD reception in their honor. The purpose of these activities is to acquaint interns with what it is like to work for the Federal government and to live in Washington. Each intern has been assigned a "buddy" who mentors them and helps to ensure that they receive valuable work experience. Other activities, such as the Capitol Hill visit, are designed to help interns take full advantage of spending the summer in Washington. The visit to Capitol Hill was sponsored by Congressman E. (Kika) de la Garza, Chairman of the House Committee on Agriculture. The interns were treated to lunch in the Senate dining room, a briefing by Hill staffers, and an opportunity to attend committee hearings and to meet their congressional representative.

Hopefully, as the summer comes to an end and interns prepare to return to school, it will have been mutually beneficial to both the students and RTD--to the students in terms of becoming familiar with Washington and real-world economic research and to RTD in terms of becoming acquainted with prospective employees.

### REGIONAL COMMITTEES

RTD staff continue to be involved in a variety of regional activities that complement the research program and provide important opportunities for professional interaction. John Miranowski, ERS member of the Executive Committee of the Great Plains Agricultural Council, recently attended the annual meeting in Wichita, Kansas and chaired a session on the 1990 Farm Bill. Noel Gollehon is on the Council's Water Committee and participated in a meeting in Denver on drought preparedness. Ralph Heimlich is a member of the Range and Livestock Committee. Heimlich and Tim Osborn were recently named to the Council's at-large task force investigating possible future uses of land currently enrolled in the Conservation Reserve Program.



Michael Moore, Glenn Schaible, and Noel Gollehon have been involved with the Western Regional Research Committee W-178, Water Conservation and Management in Western Irrigated Agriculture. The Committee recently had its annual meeting in Durango, Colorado and discussed research approaches to integrating water quality issues into the Committee's traditional focus on water conservation and irrigation technology.

Ralph Heimlich is the current President of the Southern Natural Resource Economics Committee (SNREC) and is organizing a joint October program for SNREC and NE-170 in Washington, D.C. devoted to the implementation of the conservation and research provisions of the 1990 Farm Bill. Wetland issues were recently addressed in a SNREC report. Andy Anderson and Heimlich are members of NE-170, Rural Land Policy in the Northeast. The project complements ongoing RTD work on conversion of agricultural land to urban uses.

In the North Central region, Dave Ervin has been a member of NCR-111, Resource Policy Research; Fred Kuchler is on NC-123, Agricultural Land Values; and John Reilly is on NCR-142, Economics of Biotechnology.

## **DEPARTMENTAL AWARDS**

RTD's Rachel Evans and Ralph Heimlich received USDA's Superior Service Award, the Department's second highest award, from Secretary Edward Madigan at a ceremony on June 12 in the Departmental Auditorium.

Rachel Evans and Thomasine McCall of the Commodity Economics Division were recognized "For providing outstanding statistical support for the Economic Research Service and the Department of Agriculture." Rachel Evans is in the Resource Measurement and Productivity Section of the Resource Indicators Branch. She is responsible for maintaining and updating the total farm input series for the United States and 10 major farming regions. In addition to the skills and knowledge gained through 25 years of experience, the award recognizes the high degree of professionalism Evans brings to the job and the importance of her contribution to the high quality of RTD's productivity work.

Ralph Heimlich was cited "For anticipatory research that contributes to economic understanding of the environmental and natural resource dimension of farm policy." Heimlich's award recognizes his work on wetlands that was relevant to issues in the 1990 Farm Bill debate and earlier work that contributed to the design and implementation of the 1985 Food Security Act, specifically the sodbuster, swampbuster, conservation reserve, and conservation compliance features.

Heimlich has received six ERS Administrator's Special Merit Awards for research and communication on the role of agriculture and agricultural policy in wetland preservation, for characterizing highly erodible land, communicating wetlands policy changes to nontraditional audiences, contributing to ERS' consistency study, conservation program evaluation, and situation and outlook effort.

## **AERE WORKSHOP**

Several RTD researchers participated in the 1991 Association of Environmental and Resource Economists' Workshop. This year's workshop, "The Management of Nonpoint Source Pollution," was held in Lexington, Kentucky. It included sessions on conceptual problems and approaches to nonpoint source pollution, modelling nonpoint source control policies, and applied studies of nonpoint source control experiences.

Among RTD staff participating in the workshop, David Ervin presented a paper "Data Requirements for Modeling and Evaluating National Agricultural Nonpoint Water Pollution Policies" (co-authored with Robbin Shoemaker and Robert Kellogg). David Letson presented "Point/Nonpoint Source Trading for Controlling Pollutant Loadings to Coastal Waters: A Feasibility Study" (co-authored with Stephen



Crutchfield and Arun Malik). Marca Weinberg presented "Analysis of Policy Options for the Control of Agricultural Pollution in California's San Joaquin River Basin" and "Optimal Policies for the Control of Nonpoint Source Pollution in a Second Best Environment" (both co-authored with Catherine Kling and James Wilen, University of California, Davis). Marcel Aillery and Ariel Dinar (University of California, Davis) presented "Regional Modeling and Economic Incentives to Control Drainage" (co-authored with Edna Loehman, Purdue University, Michael Moore, RTD, and Richard Howitt, University of California, Davis).

## JAER EDITORSHIP

RTD's Gene Wunderlich is stepping down after almost five years (19 issues) as Editor of ERS' Journal of Agricultural Economics Research (JAER). In a notice to ERS staff, Administrator John Lee noted specific contributions Wunderlich has made to the Journal and thanked him "for bringing a high level of care and professionalism to one of ERS' very important publications."

During Wunderlich's tenure JAER circulation has increased, a bibliography for the period 1949-1988 was published, and a series of philosophical essays were featured that will soon be published as a separate volume. He instituted a number of administrative changes to improve distribution including an arrangement with the American Association for the Advancement of Science for distribution of the Journal abroad, the use of Aspen Systems for commercial distribution, an arrangement for subscribing to JAER in conjunction with payment of annual dues to the American Agricultural Economics Association, and the establishment of a microfiche library of all copies of the Journal. Wunderlich and the JAER Editorial Board are involved in instituting a new technical writing course in ERS.

Wunderlich will continue to serve as Leader of the Land Ownership Section in RTD. The new co-editors of JAER are David Smallwood and Jim Blaylock of the Commodity Economics Division.

## PEOPLE

Welcome to ...

- Stacy Baines (L&CA), who is a summer intern and is majoring in Economics at Spelman College.
- Denice Bess (OD), formerly Secretary to the Chief of the Security, Employee and Labor Relations Staff, Office of Personnel, who joined RTD as Secretary to the Director.
- Janine Butz (RI), who is a summer intern and is majoring in Applied Economics and Business Management at Cornell University
- Ram Chandran (RI), formerly Senior Economist, Research Triangle Institute, who joined the Surveys and Data Section
- Joseph Cooper (RP), Ph.D. in Agricultural Economics from the University of California--Davis, who joined the Environmental and Regulatory Policy Section.
- Michael Dreitzer (AI&PS), B.S. in Agricultural Economics from Cornell University, who is a summer intern.
- Helen Hitselberger (AI&PS), who joined the Agricultural Inputs and Production Systems Branch as a Secretary.



- Paul Holchak (L&CA), who is a summer intern and is a graduate student at the University of Texas--Austin.
- Russ Keim (RP), who is a summer intern and is a graduate student at the University of Arizona.
- Melissa Laurie (RI), B.A. in Economics from Spelman College, who is a summer intern.
- Jennifer Lewis (RI), who is a summer intern and is majoring in Economics at Spelman College.
- Jennifer Libby (W), M.A. in Public Policy/Administration from the University of Wisconsin--Madison, who is a summer intern.
- Rita McMillan (AI&PS), M.S. in Agricultural Economics from the University of California--Davis, who is a summer intern.
- Kelly Simonson (L&CA), who is a temporary employee and is majoring in Political Science and Spanish at Northern Iowa University.
- Ashok Srinivasan (RP), M.A. in Policy Analysis from the Carnegie Mellon University, who is a summer intern.
- Eric Thurber (OD), who is a temporary employee and is majoring in Agricultural Economics at the University of Nebraska.
- Utpal Vasavada (RI), formerly Assistant Professor, Universite' Laval, Quebec, who is a Visiting Scholar in the Resource Measurement and Productivity Section.

#### Appointment Changes .....

- Chong S. Kim (W), has been named Senior Economist in the Water Branch.
- Kazim Konyar (RP), returned for the summer from his position as Assistant Professor, California State University, San Bernandino.

#### Farewell to ....

- Ken Algozin (RP), who is a graduate student at the University of Illinois.
- Dick Brazee (W), who accepted a position as Assistant Professor, University of Illinois.
- Dave Ervin (RP), who accepted a position as Department Head, Agricultural and Resource Economics, Oregon State University.
- Donna Patterson (OD), who accepted a position with the Office of the Inspector General, Department of Justice.



## Rhona Lantin (1965-1991)

Friends and colleagues were shocked to learn of the death of Rhona Lantin on July 4 in New York City. She was the innocent victim of a gun fight as she and friends were searching for a restaurant.

Rhona was born in Ames, Iowa, where her parents were pursuing post-graduate studies at Iowa State University. She graduated magna cum laude from the University of the Philippines in Los Banos. She was nearing completion of her Master's degree program in Agricultural and Resource Economics at the University of Maryland at the time of her death. Rhona began working with RTD as a part-time employee in September 1988. She was recently engaged to Patrick Canning, formerly a fellow graduate student at the University of Maryland and an RTD employee.

The University of Maryland and ERS held a joint Memorial Service for Rhona at the University's Memorial Chapel on July 15. The Rhona Lantin Scholarship Fund has been established at the University of Maryland to honor her memory. Contributions to the fund can be made through Darrell Hueth, Chairman, Department of Agricultural and Resource Economics.

## PUBLICATIONS

(October 1990 - July 1991)

### ERS/USDA PUBLICATIONS

Aiken, J. David. State Laws Relating to the Ownership of U.S. Land by Aliens and Business Entities, December 31, 1989. ERS Staff Report No. AGES 9111. March 1991. 88 pp.

Butler, Gertrude and J. Peter DeBraal. Foreign Ownership of U.S. Agricultural Land Through December 31, 1990: County - Level Data. ERS Staff Report No. AGES 9124. May 1991. 126 pp.

Crutchfield, Stephen R. Cotton Agricultural Chemical Use and Farming Practices in 1989: An Overview of Survey Results. ERS Staff Report No. AGES 9076. December 1990. 17 pp.

Crutchfield, Stephen R., Marc Ribaud, Parveen Setia, David Letson and Leroy Hansen. Cotton Production and Water Quality: An Initial Assessment. ERS Staff Report No. AGES 9105. January 1991. 47 pp.

Daugherty, Arthur B. Major Uses of Land in the United States: 1987. AER-643. January 1991. 35 pp.

DeBraal, J. Peter. Foreign Ownership of U.S. Agricultural Land Through December 31, 1990. ERS Staff Report No. AGES 9120. April 1991. 48 pp.

Delvo, Herman (Coord.). Agricultural Resources: Inputs. Situation and Outlook Report No. AR-20. October 1990. 28 pp. Contributors to the report are:

Leonard Bull  
Herman Delvo

Mohinder Gill  
Harold Taylor

Noel Uri  
Marlow Vesterby



Delvo, Herman (Coord.). Agricultural Resources: Inputs. Situation and Outlook Report No. AR-21. February 1991. 53 pp. Contributors to the report are:

Leonard Bull  
Stan Daberkow  
Marlow Vesterby

Herman Delvo  
Mohinder Gill

Harold Taylor  
Noel Uri

Ferguson, Walter and Philip Szmedra (Eds.). Pesticide Residues and Food Safety; Aspects of a Changing Structure. ERS Staff Report No. AGES 9110. February 1991. 43 pp.

Frisvold, George B. Endogenous Technological Change in U.S. Agriculture: A Direct Test of the Induced Innovation Hypothesis. Technical Bulletin No. 1790. May 1991. 19 pp.

Frisvold, George B. and Eugene Lomax. Agricultural Research and Productivity Differences Among 26 Countries. Agricultural Economic Report No. 644. May 1991. 14 pp.

Hauver, James (Coord.). Economic Indicators of the Farm Sector: Production and Efficiency Statistics, 1989. ECIFS 9-4. April 1991. 54 pp. Contributors to the report are:

Arthur Daugherty  
Marlow Vesterby

James Hauver

Harold Taylor

Hexem, Roger (Coord.). Situation and Outlook Summary. Agricultural Resources: Agricultural Land Values. April 1991. 7 pp.

Hexem, Roger (Coord.). Agricultural Resources: Agricultural Land Values. Situation and Outlook Report No. AR-22. June 1991. 49 pp. Contributors to the report are:

Patrick Canning  
J. Peter De Braal

John Jones  
Felix Llacuna

Fred Kuchler

Jones, John and Roger Hexem. Cash Rents for Farms, Cropland and Pasture, 1960-89. Statistical Bulletin No. 813. October 1990. 43 pp.

Kula, Olaf and Denise Rogers. Farmland Ownership and Renting in the United States, 1987. ERS Staff Report No. AGES 9130. June 1991. 12 pp.

Vroomen, Harry and Bruce Larson. A Direct Approach for Estimating Nitrogen, Phosphorus, and Land Demands at the Regional Level. Technical Bulletin No. 1786. March 1991. 17 pp.

Vroomen, Harry. Forecasting Retail Fertilizer Prices: A Combined Time-Series Regression Analysis Approach. Technical Bulletin No. 1789. April 1991. 14 pp.

Wunderlich, Gene and Jim Carlin (Eds.). Journal of Agricultural Economics Research, Vol. 41, No. 4 to Vol. 43, No. 1. 1990, 1991.

## **ARTICLES AND OTHER PUBLICATIONS**

Anderson, Margot. **Technology Transfer and Agriculture: How Well Have We Done?** Review of J. Lin Compton (Ed.). Transformation of International Agricultural Research and Development. Lynn Reinner Publishers, Inc. Boulder, Colorado. 1989, in Journal of Agricultural Economics Research. Vol. 42, No. 3. 1990. pp 37-38.



- Barse, Joseph R. and John R. Schaub. **Trends and Implications of Agricultural Input Use in U.S. Agriculture.** in G. Johnson (Ed.). Social Science Agricultural Agendas and Strategies. Michigan State University Press. 1991. pp. III-143 to III-150.
- Brazee, Richard J. **Review** of M. D. Bowes and J. V. Krutilla. Multiple Use Management: The Economics of Public Forestland. Resources for the Future. 1989, in American Journal of Agricultural Economics. Vol. 73, No. 1. February 1991. pp. 222-223.
- Bills, Nelson L. and Stephen Weir. **Role of the Non-Profit Private Sector in Rural Land Conservation: Results From a Survey In the Northeastern United States.** Staff Paper No. 91-17. Department of Agricultural Economics, Cornell University. Ithaca, New York. June 1991. 19 pp.
- Bull, Leonard. **Pesticide Use by Tillage System, 1988 and 1989 Corn Production.** Agricultural Resources: Inputs. Situation and Outlook Report No. AR-21. February 1991. pp. 35-38.
- Canning, Patrick. **Estimating Producer Welfare Effects of the Conservation Reserve Program.** Journal of Agricultural Economics Research. Vol. 43. No. 1. Winter 1991. pp. 15-21.
- Capalbo, Susan; Eldon Ball, and M. Denny. **International Comparisons of Agricultural Productivity: Development and Usefulness.** American Journal of Agricultural Economics. Vol. 72, No. 5. December 1990. pp. 1292-1297.
- Caswell, Margriet F. Economic Effects of Oil and Gas Development on Marine Aquaculture Leases. Technical Completion Report: Project No. 14-35-0001-30471. Minerals Management Service. Washington, D.C. March 1991. 50 pp.
- Caswell, Margriet F. **Co-Development of Coastal Resources: Oil vs. Mariculture.** Contemporary Policy Issues. Vol. 9, No. 2. April 1991. pp. 92-100.
- Caswell, Margriet F. **The Effects of Pricing Policies on Water Conservation and Drainage.** American Journal of Agricultural Economics. Vol. 72, No. 4. November 1990. pp. 883-890.
- Conway, Roger; James Hrubovcak, and Michael LeBlanc. **A Forecast Evaluation of Capital Investment In Agriculture.** International Journal of Forecasting. Vol. 6. No. 4. December 1990. pp. 509-519.
- Daugherty, Arthur. **Crop Area Uncertain In 1991.** Agricultural Outlook. AO-169. ERS, USDA. November 1990. pp. 24-25.
- Ferguson, Walter L. **Cotton Farmers Control Chemical Use.** Agricultural Outlook. AO-169. ERS, USDA. November 1990. pp. 22-24.
- Ferguson, Walter L. **Cotton Pest Management Practices.** Agricultural Resources: Inputs. Situation and Outlook Report No. AR-20. ERS, USDA. October 1990. pp. 24-27.
- Ferguson, Walter L. **Welfare Implication of EPA's New Registration Standard: The Case of Fresh Market Tomatoes.** Pesticide Residues and Food Safety; Aspects of a Changing Structure. ERS Staff Report No. AGES 9110. February 1991. pp. 17-31.
- Frisvold, George B. **Investment Boosts Productivity.** Agricultural Outlook. AO-175. ERS, USDA. June 1991. pp. 25-27.



- Gadsby, Dwight; J. Andersen, and J.Cole. **Corn Belt Soil Moisture Replenished Quickly.** Farmline. Vol. 12, No. 1. ERS, USDA. January 1991. p. 19.
- Gertel, Karl and John Jones. **Returns to Cash Rented Farmland and Common Stock, 1940-1990.** Agricultural Resources: Agricultural Land Values. Situation and Outlook Report No. AR-22. June 1991. pp. 38-44.
- Gill, Mohinder and Stan Daberkow **Cropping Pattern Comparisons Between 1989 and 1988.** Agricultural Resources: Inputs. Situation and Outlook Report No. AR-21. ERS, USDA. February 1991. pp. 13-47.
- Gollehon, Noel. **California Growers Face Drought.** Agricultural Outlook. AO-172. ERS, USDA. March 1991. pp. 26-28.
- Gollehon, Noel. **California Drought Persists.** Agricultural Outlook. AO-176. ERS, USDA. July 1991. pp. 24-26.
- Hansen, LeRoy and Arne Hallam. **National Estimates of the Recreational Value of Streamflow.** Water Resource Research. Vol. 27, No. 2. 1991. pp. 167-175.
- Hansen, LeRoy. **Rural Development and Recreational Fishing.** Rural Development Perspectives. Vol. 7, No. 1. ERS, USDA. October - January 1991. pp. 30-34.
- Harrison, Jack and Hexem, Roger. **U.S. Average Farmland Values Increased by 2 Percent in 1990.** Farmline. Vol. 12, No. 5. ERS, USDA. May 1991. p. 1.
- Hauver, James H. and V. Eldon Ball. **A New Tornqvist Multifactor Productivity Index.** Economic Indicators of the Farm Sector: Production and Efficiency Statistics, 1989. ECIFS 9-4. ERS, USDA. April 1991. pp. 50-54.
- Heimlich, Ralph. **Agriculture Adapts to Urbanization.** National Food Review. Vol. 14 Issue 1. ERS, USDA. January-March 1991. pp. 21-25.
- Heimlich, Ralph. **Wetlands and Agriculture: New Relationships.** Forum for Applied Research and Public Policy, Vol. 6, No. 1. Spring 1991. pp. 78-83.
- Heimlich, Ralph. **Soil Erosion and Conservation Policies In the USA** in N. Hanley (Ed.). Farming and the Countryside: An Economic Analysis of External Costs and Benefits. CAB International. 1991. pp. 59-90.
- Heimlich, Ralph and Olaf Kula. **Economics of Livestock and Crop Production on Post-CRP Lands.** in L. Joyce, J. Mitchell and M. Skold (Eds.). The Conservation Reserve--Yesterday, Today and Tomorrow. General Technical Report RM-203. USDA, Forest Service. Rocky Mountain Forest and Range Experiment Station. Fort Collins, Colorado. May 1991. pp. 11-23.
- Heimlich, Ralph and Charles Barnard. **Agricultural Adaptation to Urbanization: Farm Types in United States Metropolitan Areas**, in I. Audirac and E. Starnes (Eds.). Rural Planning and Development: Visions of the 21st Century. Volume II. University of Florida. Gainesville, Florida. February 1991. pp. 551-561.
- Hellerstein, Daniel. **Interpreting the Reverse Multinomial Logit as a Count Data Model.** Leisure Sciences. Vol. 12. June 1990. pp. 173-178.
- Hexem, Roger. **Farmland Values Rise 2 Percent.** Agricultural Outlook. AO-174. ERS, USDA. May 1991. p. 23.



- Huang, Wen-Yuan and Noel Uri. **An Analysis of the Marginal Value of Cropland and Nitrogen Fertilizer Use Under Alternative Farm Programs.** Agricultural Systems. Vol. 35. Elsevier Science Publishers, Ltd. England. 1991. pp. 433-453.
- Huang, Wen-Yuan and Noel Uri. **An Analytical Framework For Assessing the Benefits and Costs of Policies Related to Protecting Groundwater Quality.** Environment and Planning A. Vol. 22. 1990. pp. 1469-1486.
- Hyde, William and E. Mercer. **Economic Questions**, in Burch, W. (Ed.), Social Science Concepts in Agroforestry London and Delhi. Oxford University Press. Oxford, England. 1990.
- Hyde, William; S. Daniels and D. Wear. **The Distributive Effects of Forest Service Attempts to Maintain Community Stability.** Forest Science. Vol. 37, No. 1. March 1991. pp. 245-61.
- Hyde, William and B. Seldon. **Welfare Gains from Wood Preservatives Research.** Journal of Agricultural Economics Research. Vol. 43, No. 1. Winter 1991. pp. 22-29.
- Hyde, William; R. Mendelsohn and R. Sedjo. **The Applied Economics of Tropical Deforestation.** Association of Environmental and Resource Economists Newsletter. Vol. 11, No. 1. May 1991. pp. 6-12.
- Knudson, Mary and LeRoy Hansen. **Investments in Seed Technology: An Examination of Winter Wheat Yield Response to Seed Source.** Journal of Production Agriculture. Vol. 3, No. 4. 1990. pp. 551-557.
- Krupa, Kenneth and Marlow Vesterby. **How Urban Pressure Affected Sales of Agricultural Products in Fast-Growth Counties: 1950-1987**, in I. Audirac and E. Starnes (Eds.). Rural Planning and Development: Visions of the 21st Century. Volume II. University of Florida. Gainesville, Florida. February 1991. pp. 241-252.
- Kuchler, Fred. and Tegene, Ababayehu. **Speculative Bubbles in Farmland Prices?** Agricultural Outlook. ERS, USDA. November 1990. pp. 35-38.
- Larson, Bruce A. **The Causes of Land Degradation along 'Spontaneously' Expanding Agricultural Frontiers in the Third World: Comment.** Land Economics. Vol. No. 2. 1991. pp. 260-266.
- Larson, Bruce A. and D.W. Bromley. **Property Rights, Externalities, and Resource Degradation: Locating the Tragedy.** Journal of Development Economics. Vol. 33. 1990. pp. 235-262.
- Larson, Bruce A. and Mary K. Knudson. **Whose Price Wins: Institutional and Technical Change in Agriculture.** Land Economics. Vol. 67, No. 2. 1991. pp. 213-224.
- Lewandowski, Jan K. **Plenty of Trees for the Logging.** Review of R.A Sedjo and K.S. Lyons. The Long-Term Adequacy of World Timber Supply. Resources for the Future. Washington, D.C. 1990, in Journal of Agricultural Economics Research. Vol. 43, No. 1. Winter 1991. pp. 34-35.
- Miranowski, John; J. Hrubovcak and J. Sutton. **The Effects of Commodity Programs on Resource Use**, in R.E. Just and N. Bockstael (Eds.). Commodity and Resource Policies in Agricultural Systems. Springer-Verlag. New York. 1991. pp. 275-292.



- Moore, Michael R. **The Bureau of Reclamation's New Mandate for Irrigation Water Conservation: Purposes and Policy Alternatives.** Water Resources Research. Vol. 27, No. 2. February 1991. pp. 145-155.
- Moore, Michael R.; W. M. Crosswhite and J. E. Hostetler. **Agricultural Water Use in the United States, 1950-85.** National Water Summary 1987. U. S. Geological Survey Water-Supply Paper 2350. U.S. GPO. Denver, Colorado. 1990. pp. 93-107.
- Negri, Donald and D. H. Brooks. **Determinants of Irrigation Technology Choice.** Western Journal of Agricultural Economics. Vol. 15, No. 2. pp. 213-223.
- Osborn, C. Tim. **Response** to article "Soil Conservation: We Can Get More for Our Tax Dollars," by Jim Sinner. Choices, Third Quarter, 1990, pp. 39-40.
- Osborn, C. Tim. **Revamped CRP Growing Again.** Agricultural Outlook. AO-175. ERS, USDA. June 1991. pp. 22-25.
- Osborn, C. Tim. **Conservation.** Chapter in Provisions of the Food, Agriculture, Conservation and Trade Act of 1990. AIB No. 624. ERS, USDA. June 1991. pp. 54-62.
- Padgitt, Merritt. **Production, Resource Use, and Operating Characteristics of Participants and Nonparticipants in Farm Programs.** Agricultural Resources: Cropland, Water, and Conservation. Situation and Outlook Report No. AR-19. September 1990. pp. 48-54.
- Parks, Peter and R. Kramer. Cost of Wetlands Protection and Restoration Policies: Positive and Normative Approaches. School of Forestry and Environmental Studies, Duke University. Durham, North Carolina. November 1990. 15 pp.
- Reilly, John (Associate Author). **Agriculture and Forestry** in Tegart, W. J. McG., G. W. Sheldon, and D. C. Griffith. Climate Change: The IPCC Impacts Assessments. Australian Government Printing Office, Canberra. 1990. 45 pp.
- Reynolds, John and B. Dillman. Urban Land Conversion in Florida's Metropolitan Areas. Staff Paper 401. Institute of Food and Agricultural Sciences, University of Florida. Gainesville, Florida. December 1990. 17 pp.
- Szmedra, Philip I., M. E. Wetzstein, R. W. McClendon. **Toward an Understanding of Pest Control Decisions in Agriculture: An Adaptive Economic Approach**, in Handbook of Behavioral Economics. JAI Press. Greenwich, Connecticut: London, England. 1991. pp. 201-214.
- Szmedra, Philip I. **Agricultural Pesticide Use**, in Handbook of Pest Management in Agriculture. Vol. 111. CRC Press. Boca Raton, Florida. 1991. pp. 649-677.
- Taylor, Harold H. **A Statistical Analysis of Fertilizer Application Rate Differences between 1989 and 1990.** Agricultural Resources: Inputs. Situation and Outlook Report No. AR-21. ERS, USDA. February 1991. pp. 39-42.
- Tegene, Ababayehu. **The Kalman Filter Approach for Testing Structural Change in the Demand for Alcoholic Beverages.** Applied Economics. Vol. 22. 1990. pp. 1407-1416.
- Tegene, Ababayehu. **Commodity Concentration and Export Earnings Instability.** The American Economist. Vol. XXXIV. 1990. pp. 55-59.



- Vandeman, Ann M. **Agrarian Capitalism: Does Nature Matter?** Review of Susan Archer Mann, Agrarian Capitalism in Theory and Practice. The University of North Carolina Press. Chapel Hill. 1990, in Journal of Agricultural Economics Research. Vol. 43, No. 1. Winter 1991. pp. 39-40.
- Vasavada, Utpal. **Modeling the Demand For Exports: The Case of Oligopsony**. Canadian Journal of Agricultural Economics. Vol. 38, No. 3. November 1990.
- Vesterby, Marlow. **Farm Machinery Purchases to Pick Up**. Agricultural Outlook. AO-174. ERS, USDA. May 1991. pp. 24-25.
- Wunderlich, Gene and Denise Rogers. **USDA Survey: Who Owns How Much Farmland?** Agrifinance. January 1991. p. 44-45.
- Yee, Jet. **Effect of Consumption Standards on U.S. Gasoline Consumption**. Journal of Policy Modeling. Vol 13, No. 2. Summer 1991. pp. 205-227.

#### PAPERS, SPEECHES, SEMINARS

- Anderson, Margot and Bruce Larson. **International Technology Transfers: Private Channels and Public Welfare**. Invited Paper. Allied Social Science Meetings, Washington, D.C., December 28, 1990.
- Ball, V. Eldon, Hyunok Lee, and Agapi Somwaru. **Cross-Country Comparisons of Cost-Efficiency in EC Agriculture**. EC '92: The Future of Agriculture, conference jointly sponsored by The World Bank and ERS, Washington, DC. November 1990.
- Ball, V. Eldon. **Theoretical Considerations for Estimating Costs of Production for Multiproduct Firms**. Economic Accounting for Commodity Cost and Returns Conference, Kansas City, Missouri. February 19-21, 1991.
- Caswell, Margriet F. **Environmental Interdisciplinary Research and the Economist**. Western Economic Association Meeting. Seattle, Washington. June 29-July 3, 1991.
- Caswell, Margriet F. **Economic Research on the Effects of Biotechnology in Market Economies**. EC-U.S. Task Force on Biotechnology Research Meeting. Brussels, Belgium, July 1991.
- Crutchfield, S. and R. Brazee. **An integrated Model of Agricultural Production and Water Quality: An Application to Pesticides, Surface Water, and Ground Water**. Pesticides in the Next Decade: The Challenges Ahead. Third National Research Conference on Pesticides. Richmond, Virginia. November 8-9, 1991.
- Daberkow, Stan. **Pesticide Export issues**. Natural Resource Day. A Federal Interagency Conference. Rosslyn, Virginia. May 16, 1991.
- Daberkow, Stan and John Schaub. **Outlook For Farm Outputs**. Annual Agricultural Outlook Conference. USDA. November 28, 1990.
- Dillman, Buddy L. and John E. Reynolds. **Wetland Conversion Practices in the Southeast**. Association of American Geographers Meeting. Miami, Florida. April 16, 1991.



- Dinar, Ariel, Edna Loehman, Marcel Aillery, Michael Moore, and Richard Howitt. **Regional Modeling and Economic Incentives to Control Drainage.** AERE Workshop on the Management of Nonpoint Pollution. Lexington, Kentucky. June 6-7, 1991.
- Ervin, David E. **The Impacts of Production Related Subsidies on the Environment.** The Organization for Economic Cooperation and Development. Ad Hoc Group on Agriculture and the Environment. Paris, France. October 1-2, 1990.
- Ervin, David E. **Data Needs to Assess Environmental Quality Issues Related to Agriculture and Rural Areas: Discussion.** Allied Social Science Meetings. Washington, D.C. December 28, 1990.
- Ervin, David E. **Program Evaluation.** President's Water Quality Initiative: Interagency Progress and Perspectives. Washington, D.C. February 6-7, 1991.
- Ferguson, Walter L. **Cotton Farmers' Use of Pesticides and Pest Management Practices.** Pesticides in the Next Decade: The Challenges Ahead. Third National Research Conference on Pesticides. Richmond, Virginia. November 8-9, 1990.
- Frisvold, George B. and Daniel Putler. **Product Quality Research Under Asymmetric Information.** NE-165 National Conference on Competitive Strategy Analysis in the Food System. Alexandria, Virginia. June 3-5, 1991.
- Frisvold, George B. **Emerging Issues in the Allocation of Public Research Funds.** Allied Social Science Association Meetings. Washington, DC. December 28, 1990.
- Heimlich, Ralph. **Wetlands and Agriculture: Recent Federal Policy and Emerging Issues.** Southern Extension Public Affairs Committee. Clearwater, Florida. June 25, 1991.
- Heimlich, Ralph. and Barnard, Charles. **Agricultural Adaptation to Urbanization: Farm Types in United States Metropolitan Areas.** WRCC-71 Symposium: The Future of Agriculture Near Cities, Western Regional Science Association Meetings. Monterey, California. February 25-28, 1991.
- Hexem, Roger. **Farmland Value Update.** November 1990, February 1991, May 1991. Quarterly papers prepared from surveys of a national panel of accredited rural appraisers (3 issues). 4 pp.
- Kane, Sally, J. Tobey, and J. Reilly. **The Economic Effects of Climate Change on Agriculture.** Global Change: Economic Issues in Agriculture, Forestry, and Natural Resources Conference. Washington, D.C. November 19-21, 1990.
- Krupa, Kenneth and Arthur Daugherty. **Major Land Uses. State, regional, and national estimates of 15 major land uses including cropland, pasture, and grazing, forest, and urban uses for Census of Agriculture years between 1945 and 1987.** ERS Standard Data Product. Order # 89003, November 1990.
- Lewandrowski, Jan. **Tropical Deforestation and the Design of Global Preservation Policies.** American Association for the Advancement of Science Annual Meetings. Washington, D.C. February 14-19, 1991.
- Lewandrowski, Jan and Richard Brazee. **Government Farm Programs and Climate Change: A First Look.** Global Change: Economic Issues in Agriculture, Forestry, and Natural Resources Conference. Washington, D.C. November 19-21, 1990.



- Miranowski, John and Stan Daberkow. **Squaring the Circle of Polson.** Natural Resource Policy Consortium. Washington, D.C. May 8, 1991.
- Osborn, C. Tim. **New Conservation Reserve Program Goals and Selection Process.** EPA Farm Bill Workshop, Washington, DC. May 2, 1991.
- Osborn, C. Tim and David Ervin. **1990 Farm Bill Conservation Provisions and Evolution of Conservation Program Implementation.** Resources for the Future National Leadership Development Program, Washington, DC. March 6, 1991.
- Reilly, John. **Climate Change and the Trace Gas Index Issue.** Global Change: Economic Issues in Agriculture, Forestry, and Natural Resources Conference. Washington, D.C. November 19-21, 1990.
- Reilly, John. **Carbon Dioxide Emissions and Global Environmental Change.** Dahlem Workshop on "Limiting the Greenhouse Effect: Options for Controlling Atmospheric CO<sub>2</sub> Accumulation." Berlin, Germany. December 9-14, 1990.
- Reilly, John. **Biotechnology: Cost-Saving or Quality Enhancing.** Biotech USA. Washington, D.C. November 27-29, 1990.
- Reilly, John. **Economic Modeling and Climate Change Issues.** Economics Workshop for Delegates to the Framework Convention on Climate Change, Washington, D.C. February 1-2, 1991.
- Reilly, John. **Economic Modeling of Global Climate: Comparing Approaches.** The Economic Costs of Mitigation and Adaptation to Climate Change. Washington, D.C. December 4-5, 1990.
- Reilly, John. **Climate Change and Economic Issues.** Seminar, Princeton University. February 5, 1991.
- Reilly, John. **A Dynamic Control Representation of Climate Change Costs and Benefits.** Seminar, Cornell University. May 1, 1991.
- Reilly, John and Roger Conway. **Policy Issues and Agricultural Technology: Comments.** Allied Social Science Meetings. Washington, D.C. December 28, 1990.
- Setia, Parveen and D. Letson. **Adoption of Alternative Management Systems to Improve Water Quality Under Uncertainty.** Pesticides in the Next Decade: The Challenges Ahead. Third National Research Conference on Pesticides. Richmond, Virginia. November 8-9, 1991.
- Setia, Parveen and K. Algozin. **Effects of Agricultural Pesticides' Use Restrictions in the United States.** Pesticides in the Next Decade: The Challenges Ahead. Third National Research Conference on Pesticides. Richmond, Virginia. November 8-9, 1991.
- Schaub, John R. **Discussant** of paper "Economic Impacts of Chemical Use Reduction on Southern Agriculture" by John Penson and C. Robert Taylor. Southern Agricultural Economics Association Meetings. Fort Worth, Texas. February 2-6, 1991.
- Tegene, Ababayehu. **Testing For Speculative Bubbles In Farmland Prices.** Southern Agricultural Economics Association Meeting. Fort Worth, Texas. February 2-6 1991.
- Tegene, Ababayehu. **Evaluating Forecasting Models of Farmland Prices.** Western Economics Association Meeting. Seattle, Washington. June 29 - July 3, 1991.



UNITED STATES DEPARTMENT OF AGRICULTURE  
ECONOMIC RESEARCH SERVICE  
1301 NEW YORK AVENUE, NW.  
WASHINGTON, D. C. 20005-4788

OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE, \$300

## RTD TODAY

Editor: William Anderson

Assistant: Douglas Rager

This newsletter is distributed free to RTD employees, retirees, and colleagues. Send subscription requests and address changes to the Editor, **RTD TODAY**, USDA/ERS/RTD, 1301 New York Avenue, NW, Room 524, Washington, DC 20005-4788, or phone (202) 219-0450.